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Water Quality Report

2011

TOWN OF AMESBURY, MA

DPW—WATER DEPARTMENT

PWSID# 3007000

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AMESBURY, MASSACHUSETTS

What the EPA Says About Drinking Water

Contaminants and Health Risks

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Other Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons—such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants—can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Center for Disease Control) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline.

Contaminants

The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants, which can be either naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, Mass DEP and US EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Source Water Assessment and Availability

DEP assessed Amesbury's public water supply in a source water assessment and protection (SWAP) report. Based on the presence of at least one high threat land use within the protection areas, the water supply was assigned a high susceptibility ranking. The high threat activities listed by DEP are those that typically use, produce, or store contaminants of concern, which if managed improperly, are potential sources of contamination. It is important to understand that a release may never occur from a potential source, and the actual risk may be lower than the relative threat ranking assigned to it. The report notes several key issues to address, and Amesbury was commended for taking an active role in source water protection measures.

The complete SWAP report is available online at <http://www.mass.gov/dep/water/drinking/3007000.pdf>



Thatcher W. Kezer III, Mayor
Robert L. Desmarais, P.E, DPW Director

For more information about the treatment process, or to schedule a tour of the facility, contact Tom Rogers at 978-388-0853. Visit our website at www.amesburyma.gov.



Upgrade Complete !

The overhaul of the Amesbury Water Treatment Facility was required for compliance to new Massachusetts Department of Environmental Protection and U.S. Environmental Protection Agency regulations

The upgrade of the Amesbury Water Treatment Facility finally was completed in March of 2012. A major component of the project centered around the Dissolved Air Flotation (DAF) system, which replaced the older technology Sedimentation Basin. The DAF system has proved to yield high quality water at peak flows with complete redundancy. The new Chemical Building houses all the treatment chemicals with new safety features installed in all the chemical systems. The facility infrastructure was also updated, giving the building new and more efficient heating, lighting and plumbing. All building codes were brought up to today standards.



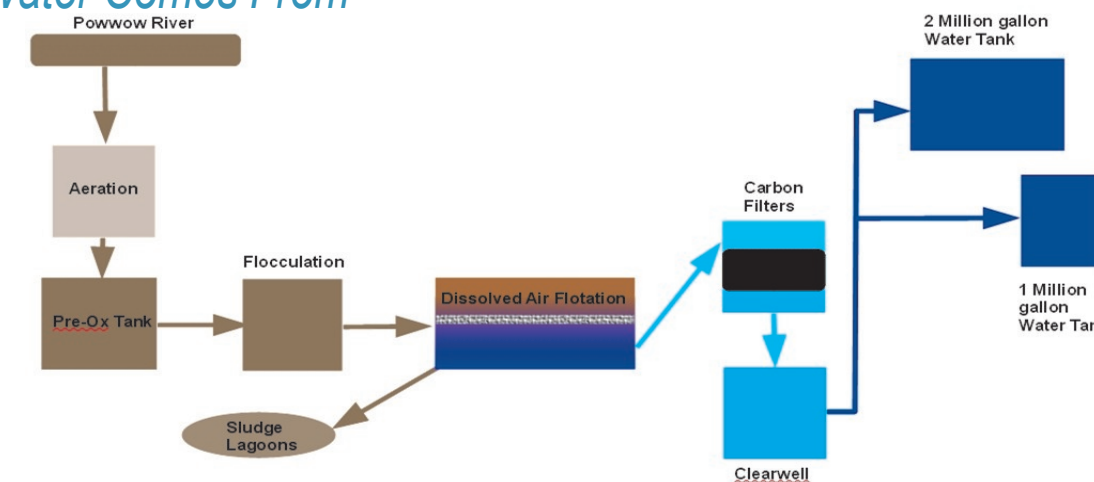
The new Dissolved Air Flotation system (DAF).

Facts:

Total Finished Water Pumped to city (2011) = 475,479,702 gallons
Average gallons per person per day in Amesbury (2011) = 53 gallons
Leaky faucet at 1 drip per second = 3000 gal per year (EPA data)
Amesbury Water rate = \$6.40 per 100 cubic feet (748 gal) = 8/10ths of a penny per gal-

Where Your Drinking Water Comes From

Amesbury receives its drinking water from the Powow River which is supplemented by Tuxbury Pond, Lake Attitash and Meadowbrook. Two groundwater wells are also available for use during peak season. Each day millions of gallons of Powow River water is drawn directly into the water treatment plant for purification. The treatment process utilizes a series of physical and chemical steps designed to produce a safe and consistent quality product. The current treatment process is illustrated in the schematic below.



This consumer confidence report is the 14th publication to be issued under the Environmental Protection Agency (EPA) regulations requiring annual notification to all consumers about local drinking water sources and water quality information. It is being delivered to all consumers, the Amesbury Board of Health, the Massachusetts Department of Public Health (DPH), and the Massachusetts Department of Environmental Protection (DEP). Additional copies are available at the library, town hall, and water treatment plant. It summarizes Amesbury's drinking water sources, treatment facility, monitoring information, water quality parameters, and health-related water issues.

How to Read the Following Tables

The following tables present the results of most recent water quality testing during the 2009 calendar year, unless otherwise noted. All of the regulated drinking water contaminants that were detected in the water are listed in the tables that follow. The presence of contaminants in the water does not indicate that the water poses a health risk. Any potential health risk associated with a contaminant is clearly explained. All testing was done in accordance with EPA and MA DEP drinking water regulations. The following definitions have been provided to help you better understand Amesbury's water quality information.

- Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants (ex. chlorine, chloramines, chlorine dioxide).
- Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Treatment Technique (TT):** A required process intended to reduce the level of contaminant in drinking water.
- Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers a treatment or other requirements that a water system must follow.
- Parts Per Million (ppm), Parts Per Billion (ppb):** These units are used to describe the levels of detected contaminants. One ppm is comparable to 1 cent in \$10,000 dollars; one ppb is comparable to 1 cent in \$10,000,000 dollars.
- EPA = U.S. Environmental Protection Agency
DEP = Massachusetts Department of Environmental Protection (MA DEP)
CDC = U.S. Center for Disease Control and Prevention

Test Results

Thousands of water samples were analyzed for the presence of biological, inorganic, and organic contaminants throughout the year. The following tables show only those contaminants that were detected in Amesbury's water at some level. Although all of the results listed here are under the Maximum Contaminant Levels (MCL), we feel it is important that you know exactly what was detected in the drinking water and how much of the substance was present. Massachusetts Department of Environmental Protection (DEP) allows us to monitor for certain substances less than once per year because the concentration of these substances do not change frequently. In these cases, the most recent test results are included along with the year in which the sample was collected. All units of measure for test results are reported in parts per million (ppm) unless noted otherwise.

Information About Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Amesbury Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>. The values reported in the table below are from tests conducted in 2011. Results represent the highest concentration found in 90% of the homes sampled and are well below the EPA's action levels requiring additional corrective measure.

Range Levels						
Parameter	90th Percentile Value	Range of Detection	MCL	MCLG	# of Sites Above AL	Source of Contaminant
Lead (ppb) 2011	4.1	0—4.1	15 (action level)	Zero	Zero	Corrosion of household plumbing
Copper (ppm) 2011	0.22	0.037—0.22	1.3 (action level)	1.3	Zero	Corrosion of household plumbing

Biological Contaminants

Parameter	Maximum	Range	MCL	MCLG	Source of Contaminant
Total Coliform (colonies/ml)	0	0	<5% of samples positive within a month	0	Naturally present in environment; human and animal waste
Total Organic Carbon	2.47	0.80 - 2.47	TT=45% removal	N/A	Naturally present in environment

Miscellaneous Contaminants

Parameter	Maximum	Range	MCL	MCLG	Source of Contaminant
Fluoride <i>Note: discontinued 1/27/09</i>	—	—	4	4	Water additive that promotes strong teeth
Manganese	0.097	0.008– 0.097	N/A	0.05 (EPA guideline)	Naturally present in the environment
Perchlorate	ND	N/A	2	N/A	Propellant for rockets and explosives
Sodium	34	N/A	N/A	20 (DEP guideline)	Naturally present in environment; deicing runoff; water treatment process residual
Sulfate	41	N/A	N/A	250 (EPA guideline)	Naturally present in environment; water treatment process residual
Turbidity (ntu)	0.28	0.08 - 0.28	TT= 1.0 max TT<0.3	N/A	Fine silts and soil runoff
			MRDL	MRDLG	
Chlorine	1.46	0.95-1.46	4	4	Water additive used to control microbes

Disinfection By-Products

Parameter	Maximum	Range	MCL	MCLG	Source of Contaminant
Total Trihalomethanes (ppb)	51.4	6.6 – 51.4	80	N/A	By-product of chlorination
Haloacetic Acids (ppb)	29.0	4.8 - 29.0	60	N/A	By-product of chlorination

Other Water Quality Parameters

Parameter	Range	Description
pH	7.0 - 9.1	Measure of the acidity or basicity
Alkalinity (ppm as CaCO ₃)	12 - 18	Buffering capacity in respects to pH
Hardness (ppm as CaCO ₃)	26	Measure of the mineral content. Amesbury has soft water 26 ppm = 1.5 gpg (grains per gallon)